

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MARK MYERS, JEFF COLE and PETER FALTER

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Appeal 2006-2416  
Application 09/988,660  
Technology Center 2800

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Decided: January 31, 2007

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Before JAMES D. THOMAS, JOSEPH L. DIXON, and HOWARD B. BLANKENSHIP, *Administrative Patent Judges*.

THOMAS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants have appealed to the Board from the Examiner's Final Rejection of claims 4, 6 and 9 through 20, Appellants having cancelled claims 1 through 3, 5, 7 and 8.

Independent claim 4 is reproduced below:

4. An infrared imaging apparatus comprising:

a dewar, having an internal volume that defines a cold space;

an IR transmissive window that seals the cold space to receive IR energy directly from an IR source;

a first lens located within the cold space to receive IR energy directly from the IR transmissive window;

an IR detector located within the cold space in operational communication with the first lens and positioned coincident to a focal plane of at least a first and second wavelength of IR energy; and

an optical stop located within the cold space in front of the first lens,

wherein the first lens has a first aspheric profile on a first side and a second aspheric profile on a second side, the first side parallel to the second side and the second side facing the detector,

wherein the second aspheric profile has a holographic optical element, and

wherein the holographic optical element color corrects a first color band of infrared energy having wavelengths of 3 to 5 micrometer and coincidentally focuses at the common focal plane the first color band and a second color band of infrared energy having wavelengths of 8 to 12 micrometer.

The following references are relied on by the Examiner:

Howard	US 4,507,551	Mar. 26, 1985
Amos	US 5,369,511	Nov. 29, 1994
Tennant	US 6,034,407	Mar. 7, 2000
Ben-Menachem	US 2001/0029816 A1	Oct. 18, 2001

Claims 4, 6 and 9 through 20 stand rejected under 35 U.S.C. § 103. As evidence of obviousness as to claims 4, 9 through 13 and 15 through 20, the Examiner relies upon Howard in view of Appellants' Admitted Prior Art, further in view of Amos and Ben-Menachem, with the addition of Tennant as to claims 6 and 14 in a separately stated rejection.

Rather than repeat the positions of the Appellants and the Examiner, reference is made to the corrected Appeal Brief and Reply Brief for Appellants' positions, and to the Answer for the Examiner's positions.

#### OPINION

For the reasons set forth by the Examiner in the Answer, as amplified here, we sustain the rejections of all claims on appeal under 35 U.S.C. § 103. Since Appellants have presented arguments in the Brief and Reply Brief only as to independent claim 4 on appeal, we will focus our arguments as to the argued features of this claim. No arguments are presented before us as to dependent claims 9 through 13 and 15 through 20 in the first stated rejection and claims 6 and 14 in the second stated rejection. As such, the rejection of these dependent claims is also sustained.

At the outset, we note that the focus of the arguments between the Examiner and Appellants is the essential subject matter of the wherein clause at the end of claim 4 on appeal. More specifically, the claimed holographic optical element color corrects a first color band and separately recites it coincidentally focuses at a common focal plane this first color band and a second color band. These respective color bands are recited to be wavelengths of 3 to 5 micrometers and 8 to 12 micrometers. These ranges

are well known in the art as represented in paragraph 0002 at page one of the Specification as filed as being particularly well known sub-regions of the so-called intermediate infrared radiation region.

Appellants' arguments in the Brief and Reply Brief acknowledge that these specific regions are also taught in Ben-Menachem.

It is also significant to note here that Appellants have not presented any arguments in the principal Brief that the applied prior art is not properly combinable within 35 U.S.C. § 103.

As to the above noted features at the end of claim 4 on appeal, the Examiner presents arguments with respect to them principally based upon the teachings and showings in Ben-Menachem and Amos initially at page 5 of the Answer and substantially expanded upon at pages 6 through 8 in the Examiner's responsive argument portion of the Answer. We substantially agree with these positions set forth by the Examiner as to the Examiner's assessment of the teachings and showings in both of these references.

In contrast, Appellants' arguments as to these argued features are contained at pages 6 through 9 of the principal Brief on appeal with the focus essentially being upon the color correction requirement at the end of claim 4 on appeal. It is noted here from our perspective that Appellants have not challenged the Examiner's perspective that Amos teaches a broad banded capability of color correcting infrared energy over broad wavelengths. Notwithstanding Appellants' arguments at page 7 of the principal Brief alleging that Amos does not color correct all wavelengths, in particular the more specific argument at page 8 of this Brief, as noted earlier in this opinion, claim 4 only requires color correction at a first band of frequencies.

In other words, only one color correction capability is recited in claim 4. Among the teachings of Amos and Ben-Menachem, there is also an additional recognition that holographic optical elements are known in the art to focus infrared energy on a color plane. As to Amos, Appellants' arguments at the top of page 9 recognize "at best *Amos*, [color] corrects multiple bands of energy that are much closer in wavelength than that claimed." In other words, Appellants recognize that Amos teaches a capability of color correcting multiple bands of energy but not those specifically recited.

The Examiner's position specifically relies upon Ben-Menachem as evidence of the ability to focus on a common focal plane infrared energy but also to do so in identified band ranges set forth at the end of claim 4 on appeal. Even if Appellants' characterization of Ben-Menachem is correct that this reference only teaches the capability of operating in one of these bands or the other but not both as claimed, the Examiner's position is correct in our view that, in view of the compelling broad banded teachings of Amos, the artisan would have found it obvious to have utilized the specific wavelength ranges specified by Ben-Menachem. To this reasoning we add as well our initial recognition earlier in this opinion that the artisan knows that the specified ranges are well known in the art anyway. In view of Appellants' approach to arguing the merits of the first stated rejection, we agree with the Examiner's observation in the responsive argument portion of the Answer beginning at page 6 that Appellants are arguing Ben-Menachem and Amos separately and not considering their collective teachings within 35 U.S.C. § 103.

Appellants' remarks at pages 9 and 10 of the principal Brief on appeal relating to unexpected results are misplaced. The Examiner addresses well these arguments at pages 8 and 9 of the Answer, particularly the noted references at the bottom of page 8 to specific MPEP sections relating to considerations of evidence using an unexpected results line of reasoning. The relied-upon paragraphs [0035] to [0037] in the Specification as filed only set forth noted advantages alleged to pertain to the disclosed invention set forth and no evidence of unexpected results. It may be well observed as well that the results may have been clearly expected to an artisan since the claimed properties that are argued of the holographic optical element are merely those which Amos and Ben-Menachem recognized were known in the art as well.

When we turn to the responsive arguments in the Reply Brief, they are misplaced. To the extent Appellants appear to argue the infrared detector at page 2 of this Reply Brief, the arguments are without merit since they have not been presented earlier in the principal Brief on appeal and the Examiner's responsive arguments have not given rise to this responsive argument in the Reply Brief. It goes without saying anyway that Appellants' Specification page 7 indicates that a known prior art detector by patent number was identified as the disclosed basis of the detector presently claimed in independent claim 4 on appeal.

The discrimination and propagation capability at page 2 of the Reply Brief has not been previously argued in the principal Brief as well and not the result of any arguments presented by the Examiner in the responsive argument portion of the Answer. Moreover and most significantly,

Appellants' statement at the middle of page 2 of the Reply Brief, and repeated numerous times subsequently, is incorrect that the claimed holographic optical element is recited to color correct two color band energy ranges. As indicated earlier in this opinion, this is not what is recited in claim 4 on appeal. The subsequent arguments in the Reply Brief as to Ben-Menachem and Amos have essentially been dealt with before by us as to the arguments presented in the Brief and the Examiner's responsive arguments with which we fully agree. Essentially, Appellants are again arguing Amos and Ben-Menachem separately.

Lastly, we will not consider the argument of teaching away in topic B beginning at page 8 of the Reply Brief. Again, this kind of line of reasoning was not set forth initially in the principal Brief on appeal and the Examiner's responsive arguments do not give rise to this new line of reasoning in the Reply Brief. It goes without saying anyway that the artisan's consideration of the teaching value of Amos and Ben-Menachem actually is evidence of the state of the art as to the known properties of holographic optical elements.

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In view of the foregoing, the decision of the Examiner rejecting claims 4, 6 and 9 through 20 under 35 U.S.C. § 103 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR §1.136(a). See 37 CFR § 1.136(a)(1)(iv).

AFFIRMED

PGC

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